LeClerc Creek C&H Allotment Social and Economic Report

Prepared by: /s/ Chase Bolyard

Chase Bolyard

Date: December 17, 2014

The affected area for the LeClerc Creek Allotment would be Pend Oreille County in northeast Washington, which has a population of approximately 12,980 (Ng 2014c). Wage and salary employment (people who work for someone else) in retail trade and services are important sources of employment and income in this region. Pend Oreille County is somewhat diversified economically, but appears to be less resilient during periods following recessions compared to Washington State and the United States (Headwaters, 2009). Reliance on timber and forage from federal lands appears to be moderate to high for local businesses and employment.

Federal rangelands are critical to the economic viability of the livestock industry in 11 western states, including Washington (BLM and Forest Service, 1994). An estimated 21,000 federal permits have been issued in the western states, representing roughly 22% of all livestock producers in the region (BLM and Forest Service, 1994). Locally, within the project area and the Forest as a whole, this value is probably higher since almost all the producers on the Colville National Forest are dependent on the forage produced on Federal lands to support their livestock operations.

Many communities are closely tied to the Colville National Forest in both work activities and recreation. The local communities that are anticipated to be directly or indirectly affected by the alternatives of the LeClerc Creek Allotment include: Newport (population 2,116), Cusick (population 207) and Ione (population 447). The nearest larger towns or city where many people go to shop and buy supplies are Colville (population 4,468 and Spokane (population 210,721). Colville is approximately a 1.5 hour drive from the project area and Spokane is approximately a 1 hour drive from the project area. The affected grazing permittees live near the listed local communities including Cusick, WA.

Farming and ranching has played a defining role in the establishment of the western United States and these local areas since they were homesteaded in the 1890s. The activities associated with livestock production are often reflected in local cultures and economies. Many public land permittees consider the ranching way of life vital to maintaining traditional values and their cultural heritage. This unique lifestyle has endured and evolved throughout generations. Ranchers express a strong sense of responsibility to their families, the land, their livestock and the community (Raish and McSweeney 2003). For Pend Oreille county, farm related work consists of approximately 7% of the total employment for the county (Ng 2014b) with cattle ranches comprising approximately 21% of farms within Pend Oreille County (Ng 2014a).

Nationally, regionally, and locally, the social values and demands are changing on the National Forests. A 2002national survey has shown there is wide support for management of public lands to provide a diversity of uses, including grazing (Shields et al, 2002).

Economics

Livestock grazing within the LeClerc Creek Allotment has occurred since the homesteading era of the 1890s through the 1930s. Documented livestock use under Forest Service permits has occurred since 1940. When compared to the total economic opportunity for Pend Oreille County, cattle ranching is a minor to moderate contributor to the local economy though it is extremely important to individual livestock producers (Headwaters 2009). Fifty percent of the grazing fees collected annually on the Colville National Forest return to the Forest as range betterment funds. A portion of these dollars are used to purchase materials for range improvements and to hire local workers to complete projects on public land. This amount for the entire Colville National Forest has ranged between \$10,000 and \$14,000 in recent years.

The economics of the grazing program has evolved over time. Generally, stock animals, mainly cattle, spend the winter and early spring months on lower elevation private lands where they can be fed stored hay. This land is owned by the grazing permittees. The animals are moved to higher elevation private lands and Forest Service lands, as these lands become range ready in the spring. It is necessary for the cattle to be moved off their winter feeding areas and pastures so these private lands can be irrigated and/or allowed to grow for forage production. Many of these low elevation private lands are cut for hay and grain crops that sustain the livestock through the winter and early spring months.

This system of moving cattle to other pastures in the spring through fall maximizes the use of prime rangelands for forage production. It allows for a larger herd size than can be supported by keeping the stock just on private low-elevation lands. The longer livestock are kept off privately owned prime rangelands and farmlands, the greater the opportunity to produce two or more hay crops. The more forage produced, means more cattle can be held over the winter, and the rancher/permittee is better able to time the selling of their stock to take advantage of market prices.

In the current grazing system, calving occurs early, mostly between mid-January and March. This allows the calves to be born near ranches where they can be watched and the birth assisted when necessary by the ranchers thus reducing mortality rates. The calves develop to a size by mid-spring to where they can be safely transported to new pasture areas and are large enough to be protected from most predators, mainly coyotes, though wolves have also been observed in the project area recently.

Worldwide concerns over the safety of food sources, from situations like "mad cow disease", has made the beef market very volatile. Combined with the influx of foreign beef, there have been significant highs and lows in the domestic market. Financial institutions and the Internal Revenue Service have recognized the economic value of federal grazing permits and long-term permittees have been able to capitalize this permit as part of total ranch value for loans and property sales. However, the Forest Service does not recognize the permit as having additive financial value to an individual's property because there is no guarantee that the permit will remain with the current permittee in perpetuity and that the sale of the base property will automatically give the permit to the new owner.

Annual adjustments to the permit may be made in conjunction with the results of the end-of year monitoring of forage utilization and stream bank alteration. Based upon this information, annual adjustments may be made in the timing, intensity and duration of livestock grazing. Wildfires and prescribed fires may cause portions of allotments to be rested for a period of time. Therefore, when mitigating for ecological concerns, there are both direct and indirect economic impacts to the permittees and the local economies. Economic impacts will have a social impact to rural life styles.

If the Forest Service were to reduce their role in this grazing system, the permittee may need to find other private or public lands to hold their cattle while forage is being grown, or they would likely need to reduce their total livestock numbers. Buying and shipping large amounts of forage from outside sources is not considered economical because of the high costs involved. During the winter of 2013/2014, hay prices in the local area were approximately \$150 to \$180 dollars per ton plus shipping costs. An average cow would consume approximately 2.5 tons of hay per winter, therefore if a livestock producer were to purchase all of the hay needed to maintain their livestock for an entire winter it would have cost approximately \$375 to \$450 per cow for the winter of 2013-2014. In many cases, reductions in total livestock numbers would also make some family-owned businesses uneconomical.

Economic strains intensify as operational costs increase without associated increases in the prices received for livestock products. The average 300 cow/calf operation in the western United States typically yields a two percent investment return. In other words, a million dollar ranch with investments in land, grazing permits, livestock and equipment would typically have an annual return of \$20,000.00. This return is often too low to support a ranching family. Under these conditions, many family members must seek employment outside of the ranch (Knight et al. 2002). Studies have shown that services provided by local governments are significantly less to farms and ranches than the ranchettes and subdivisions that often replace them. Agricultural lands provide more in tax revenues than they demand in services. Likewise, residential lands generally incur greater service costs than they provide back to the county in tax revenue (Knight et al. 2002).

Contributions of public land ranching go beyond those expressed with dollar figures. The low intensity economic activity on ranches also provides open space, biodiversity, wildlife habitat scenic vistas and control of invasive and exotic species (Knight et al. 2002). All of these attributes are dwindling in the local area due to the amount of subdivision and home construction that has and is continuing to occur.

The Forest Service has consistently voiced its concern about the four threats that include the loss of open space and invasive species. Former Chief Dale Bosworth stated that: "Sustainable ranching operations have been and continue to be an important part of how we manage the National Forests and Grasslands, and are inextricably linked to the open space issue. Properly managed rangelands are also essential to our efforts to address invasive species" (USDA Forest Service, 2003).

Employment

Pend Oreille County appears to have disproportionately high unemployment compared with the 2006 Washington State average of 5.0% and the National average of 4.6%. The unemployment rate in Pend Oreille County during 2006 was 7.4%. (Headwaters 2009) and rose to 11.5% in 2013 (Ng 2014b). Natural resources and mining account for approximately 14% of the employment in Pend Oreille County (Ng 2014b). Local government, construction, health care, accommodation/food services and retail trade employ the most people in Pend Oreille County (Headwaters, 2009).

Ranchers in Pend Oreille County, with federal permits in the analysis area, are highly dependent on forage from federally managed lands. The number of cattle reared on forage within this allotment from federally managed lands represents approximately 8% of the total number of cattle within Pend Oreille County (USDA Census of Agriculture, 2007). Increased operating costs due to national markets, international market, fuel, fertilizer, feed and seed costs has increased the importance of federal grazing permits to permit holders. The impact of increased operational costs has had varied effects on the local economy according to the adjustments that local ranchers have to make within their ranching operation. In Pend Oreille County, total gross farm income has been on a declining trend since the mid-1970s, with production expenses exceeding gross income in 2004 and 2005 (Headwaters 2009). Income generated by agriculture in Pend Oreille County is approximately 4.5% below the national average (Ng 2014b). Current Pend Oreille County agricultural profit margins are small and income is limited despite the overall value of a ranch.

Average Wages

Average annual pay per job provides an indication of the wage contribution of jobs in the analysis area. Average income for Pend Oreille County is below the national and state averages: United States \$45,817.00, Washington \$47,057.00, Pend Oreille County \$35,705.00 (Headwaters, 2009). The average household income for Pend Oreille County is also below the Washington State average with household income in Pend Oreille County being \$39,131.00 and Washington State being \$56,911.00 according to data provided by http://www.city-data.com/ (2014).

Per Capita Income

Per capita income measures economic well being, taking into account both population and income changes, although it does not address income distribution. Per capita personal income is total personal income divided by the estimated population. Per capita income in Pend Oreille County is approximately \$22,896.00, while Washington State is \$35,479.00 and the national is \$34,471.00 (Headwaters, 2009). Therefore, Pend Oreille County lags behind the statewide and national average.

Cattle production and forest products provide employment in Pend Oreille County. Most of the farms and ranches are family run businesses and are not corporately owned. In 2007 the number

of cattle and calves in Ferry County was 1,332 (USDA Census of Agriculture, 2007). Of these, 101 cattle and calves graze within the LeClerc Creek Allotment during the summer and fall months. The 2005 agricultural revenue for Pend Oreille County totaled \$5,985,000.00. Cow and calf sales comprised 36.8% of this agricultural revenue in Pend Oreille County or \$2,203,000.00. This compares with 23.3% of agricultural revenue from crops or \$1,393,000 (Headwaters, 2009).

Financial Effects

The project area is grazed seasonally by one local ranching operations as a permittee. The National Forest provides the majority of the summer pasture for this operator. The total livestock numbers under permitted grazing for this allotment is 101 cow/calf pair. This ranch is a cow/calf operation with an estimated 101 calves grazing on National Forest Allotments. In an average summer of grazing, these calves would each gain approximately 3 pounds per day per calf, therefore each calf would gain approximately 411 pounds in live weight during the grazing season. In total, approximately 45,511 pounds of live weight beef production is gained. Based on current market conditions, this gain could equate to \$65,990.95 based on \$1.45/lb live weight. These amounts do not take into account the costs to care for and maintain the herd throughout the year, which are substantial.

The cost of grazing on federal lands is far less than that charged for private grazing lands. Forest Service grazing fees can fluctuate annually with the current grazing fee being \$1.35 per Animal Unit Month (AUM). The rate charged has been less than \$2.00 per AUM for at least the last ten years. It has been found that although grazing fees on private land are significantly higher than Forest Service land, overall grazing costs are much higher on Forest Service land. The increased expense associated with grazing on public land was attributed to: the cost of transporting animals to and from federal land, livestock management, maintenance of range improvements and higher death loss (Obermiller, 1992). Current stocking rates for LeClerc Creek Allotment equate to a total of 405 AUMs utilized each year. Total grazing fees collected for this allotment amount to \$546.75 each year based on there being 405 AUMs and the rate charged per AUM being \$1.35.

Of the grazing fees collected from Forest Service grazing lands 50% are returned to the Forest where they originated for range betterment purposes, 25% is deposited in the national treasury and 25% are paid to the county where the grazing lands exist.

A comprehensive economic analysis is not required by NEPA. In lieu of a comprehensive analysis, an economic analysis based on identifiable and quantifiable costs is presented. Quantifiable economic information on the benefits of alternatives is not available because of the difficulty in obtaining quantifiable data of the relationship between project outputs and resource impacts. For example, the flow of benefits from maintaining or enhancing ecological status and viability of riparian areas is difficult to quantify from an economic standpoint. This holds true in regards to identifying the qualitative value of recreation and other non-commodity values. The main problem from an analysis standpoint is that these resources are not typically allocated through a well-functioning market system. Consequently, price and quantity information is frequently not available for a particular resource. This, along with the incomplete information on

the production function relationship between project activities and a quantifiable effect on a given resource, makes it difficult, to identify and measure economic benefits.

Effects

Alternative A- Current Management

Direct and Indirect Effects

Alternative A would continue with the current management strategy for the LeClerc Creek Allotment. No new range improvements would be constructed without separate NEPA analysis to approve those projects, such as water developments or expanded drift fencing. This would result in no expenses being incurred to construct new range improvements. Maintenance of existing improvements would continue similar to previous years.

Operational costs would be expected to have no net change for the permittee or for the Forest Service. The amount of time spent on the allotment ensuring compliance with provided directions for both the permittee and the Forest Service would remain relatively consistent with previous years. Due to the way that funding is received and allotment administration is carried out, providing amounts for the cost of allotment administration for the LeClerc Creek Allotment is not possible.

Cumulative Effects

Continuing livestock grazing on the allotments within the LeClerc Creek Allotment would allow the permittee to continue operating their farms and ranches in a similar manner to that experienced currently. Existing traditions and lifestyles would continue under this alternative.

Permittees would continue to produce beef in Pend Oreille County and generate revenue which leads to the diversified economy of the area.

Due to increases in fuel prices and inflation, costs for all agricultural products and practices, such as growing crops, feeding livestock, managing livestock and maintaining range improvement projects have increased. Merely continuing existing practices would result in increased costs given current conditions and adding additional maintenance responsibilities further burdens permit holders. Input costs for cattle production, such as feed, and transportation costs, for transporting cattle to market, have drastically eroded profit margins for livestock producers. Therefore, the importance of the Forest Service grazing permit to permit holders has become more valuable due to the relatively low grazing fee charged for permitted use.

Alternative B- No Action "No Grazing" Alternative

Direct and Indirect Effects

The no grazing alternative would eliminate livestock grazing and the Term Grazing Permit on the LeClerc Creek Allotment unless there was a subsequent NEPA analysis to again authorize use. No grazing fees would be collected on these allotments, therefore approximately \$273 fewer range betterment dollars collected from associated grazing fees would return to the Colville National Forest and payments to Pend Oreille County resulting from grazing fees would be reduced by approximately \$137.

Operational costs would likely increase for the permittees with the loss of summer pasture including increased feed costs, increased transportation costs, and disruption of current marketing strategies. These changes translate to a significant negative economic impact on the permittees and also the local economy. Under the no grazing alternative, operational cost to the Forest Service may decrease, and activities necessary to maintain livestock grazing on public land would no longer be necessary. However, these effects would be limited to only the acres currently within the LeClerc Creek Allotment; other allotments would still incur operational costs resulting in no net change. Forest Service administration would not be as expensive on an allotment that is no longer grazed. Under the no grazing alternative, there would be no mitigation measures related to livestock management.

Existing range improvement projects including fences and corrals would remain on the allotments but would no longer be the responsibility of the permittees to maintain. Subsequent decisions would be needed regarding construction of new improvements for other resource needs such as wildlife or recreational use. If existing structures are to be maintained, alternative funding sources for maintenance would need to be secured. If private landowners wished to graze the private lands adjacent to the allotment, it would be necessary for them to fence the boundaries to insure their livestock would not trespass on Forest Service lands.

Reducing permitted livestock levels would likely affect economic viability of ranch operations because of costs associated with securing replacement range and livestock transportation. In addition there may be an overall increase in the time required by permittees in managing ranch operations.

Cumulative Effects

If permittees reduce the numbers of livestock they are able to produce, it could have a negative impact on the amount of revenue generated and spent in Pend Oreille County.

Suitable grazing lands within Pend Oreille County are limited and becoming more scarce due to subdivision of lands and development. It would likely be very difficult for permittees to locate additional grazing lands that would be large enough and/or productive enough to support the number of permitted livestock from the LeClerc Creek Allotment.

If permittees were unable to maintain an economically viable farming and ranching operation as a result of the no grazing alternative, the large acreages of private property used as their base of operations may be at risk of disposal and subdivision. Desirable attributes associated with

permittee's private property, such as open-space, biodiversity, wildlife habitat and scenic vistas, could be reduced or lost if subdivision of affected farms and ranches were to occur.

Alternative C- Proposed Action

Direct and Indirect Effects

The proposed action alternative would continue livestock grazing on the LeClerc Creek Allotment. Grazing fees and payments similar to those currently collected and dispersed would continue into the future.

The proposed action identifies several new fences, water developments, hardened stream crossings, cattle guards and brush barriers. The permittee and the Forest Service would be cooperatively involved in the implementation of these activities. Therefore, the implementation costs associated with this alternative would have a negative economic impact on the permittee and the Forest Service. The estimated cost to fully implement the proposed action alternative would be between \$104,390 and \$120,640.

Allotment	Brush Barrier (acre)	Fencing per mile (low estimate)	Fencing per mile (high estimate)	New Trough (each)	Cattle guard installation (each)	Hardened Crossing (each)	Cost
Cost per	\$400	\$17,250	\$20,500	\$2,200	\$1,500	\$800	
LeClerc Creek*	\$240	\$86,250	\$102,500	\$8,800	\$7,500	\$1,600	\$104,390 - \$120,640
Total	\$240	\$86,250	\$102,500	\$8,800	\$7,500	\$1,600	\$104,390 - \$120,640

^{*-}Values used to populate this table are approximations based on the best available data at the time of analysis.

The proposed action requires an increased level of livestock management. Emphasis in this alternative involves changing cattle use and distribution within the LeClerc Creek Allotment. Due to the increased management requirements, operational costs may increase and result in a slightly negative economic impact on the permittee, though long-term viability of livestock grazing would improve. Operational costs for the Forest Service would increase slightly from the current management. Due to the way that funding is received and allotment administration is carried out, providing amounts for the cost of allotment administration for the LeClerc Creek Allotment is not possible.

It is anticipated that adequate funding would be available in the future for range improvement project construction, allotment administration and monitoring identified in the proposed action, though it is impossible to predict future funding levels.

Cumulative Effects

There are many outside influences that affect the economic viability of ranching operations including livestock market conditions, weather patterns, governmental regulation, occurrence of diseases, and international trade policies. Within the local counties, the overall volume of livestock related jobs in the local economy is quite small. For this reason, despite the size of the differences between the alternatives, the economy-wide impacts of all the alternatives are small. However, the direct and indirect effects may be considerable for individual persons, families, or businesses within the analysis area. Within the rural communities of the surrounding area, particularly in very small communities, the loss of a single job may be very important to that community, even though it may be barely noticeable within the larger economy. Continuing livestock grazing for the next 10 years on the allotment within the LeClerc Creek would allow the permittees to continue benefiting economically in a similar manner to that experienced currently. Existing traditions and lifestyles would continue under this alternative or until it is no longer economically feasible for the permittee to graze cattle on Forest Service land.

Permittees would continue to produce beef in Pend Oreille County and generate revenue which leads to the diversified economy of the area. But, if local ranching operations become economically unviable, it is likely that the ranches would be sold, broken up, and developed for residential properties or converted to other uses. Gradually the ranching component of the social setting could be decreased or lost.

Due to increases in fuel prices and inflation, costs for all agricultural products and practices, such as growing crops, feeding livestock, managing livestock and maintaining range improvement projects have increased. Merely continuing existing practices would result in increased costs given current conditions and adding additional maintenance responsibilities further burdens permit holders. Input costs for cattle production, such as feed, and transportation costs, for transporting cattle to market, have drastically eroded profit margins for livestock producers. Therefore, the importance of the Forest Service grazing permit to permit holders has become more valuable due to the relatively low grazing fee charged for permitted use.

Alternative D- Modification of Alternative C

Direct and Indirect Effects

Alternative D would continue livestock grazing on the LeClerc Creek Allotment. Grazing fees and payments similar to those currently collected and dispersed would continue into the future.

Alternative D identifies several new fences, water developments, hardened stream crossings, cattle guards and brush barriers. The permittee and the Forest Service would be cooperatively involved in the implementation of these activities. Therefore, the implementation costs associated with this alternative would have a negative economic impact on the permittee and the

Forest Service. The estimated cost to fully implement Alternative D would be between \$66,890 and \$76,640.

Allotment	Brush Barrier (acre)	Fencing per mile (low estimate)	Fencing per mile High estimate)	New Trough (each)	Cattle guard installation (each)	Hardened Crossing (each)	Cost
Cost per	\$400	\$17,250	\$20,500	\$2,200	\$1,500	\$800	
LeClerc Creek	\$240	\$51,750	\$61,500	\$8,800	\$4,500	\$1,600	\$66,890 - \$76,640
Total	\$240	\$51,750	\$61,500	\$8,800	\$4,500	\$1,600	\$66,890 - \$76,640

^{*-}Values used to populate this table are approximations based on the best available data at the time of analysis.

Alternative D requires an increased level of livestock management. Emphasis in this alternative involves changing cattle use and distribution within the LeClerc Creek Allotment. Due to the increased management requirements, operational costs may increase and result in a slightly negative economic impact on the permittee, though long-term viability of livestock grazing would improve. Operational costs for the Forest Service would increase slightly from the current management. Due to the way that funding is received and allotment administration is carried out, providing amounts for the cost of allotment administration for the LeClerc Creek Allotment is not possible.

Alternative D requires an increased level of livestock management. Emphasis in this alternative involves changing cattle use and distribution within the LeClerc Creek Allotment. Due to the increased management requirements, operational costs may increase and result in a slightly negative economic impact on the permittee, though long-term viability of livestock grazing would improve. Operational costs for the Forest Service would increase slightly from the current management. Due to the way that funding is received and allotment administration is carried out, providing amounts for the cost of allotment administration for the LeClerc Creek Allotment is not possible.

It is anticipated that adequate funding would be available in the future for range improvement project construction, allotment administration and monitoring identified in the proposed action, though it is impossible to predict future funding levels.

Cumulative Effects

There are many outside influences that affect the economic viability of ranching operations including livestock market conditions, weather patterns, governmental regulation, occurrence of diseases, and international trade policies. Within the local counties, the overall volume of livestock related jobs in the local economy is quite small. For this reason, despite the size of the differences between the alternatives, the economy-wide impacts of all the alternatives are small. However, the direct and indirect effects may be considerable for individual persons, families, or businesses within the analysis area. Within the rural communities of the surrounding area, particularly in very small communities, the loss of a single job may be very important to that community, even though it may be barely noticeable within the larger economy. Continuing livestock grazing for the next 10 years on the allotment within the LeClerc Creek would allow the permittees to continue benefiting economically in a similar manner to that experienced currently. Existing traditions and lifestyles would continue under this alternative or until it is no longer economically feasible for the permittee to graze cattle on Forest Service land.

Permittees would continue to produce beef in Pend Oreille County and generate revenue which leads to the diversified economy of the area. But, if local ranching operations become economically unviable, it is likely that the ranches would be sold, broken up, and developed for residential properties or converted to other uses. Gradually the ranching component of the social setting could be decreased or lost.

Due to increases in fuel prices and inflation, costs for all agricultural products and practices, such as growing crops, feeding livestock, managing livestock and maintaining range improvement projects have increased. Merely continuing existing practices would result in increased costs given current conditions and adding additional maintenance responsibilities further burdens permit holders. Input costs for cattle production, such as feed, and transportation costs, for transporting cattle to market, have drastically eroded profit margins for livestock producers. Therefore, the importance of the Forest Service grazing permit to permit holders has become more valuable due to the relatively low grazing fee charged for permitted use.

Forest Plan Compliance

Alternatives C and D would meet Forest Plan direction (Forest Plan 4-2).

Report prepared by:

Chase Bolyard, Rangeland Management Specialist Newport-Sullivan Lake Ranger Districts, Colville NF December 17, 2014

References

City-Data.com (web site) February 21, 2014. Pend Oreille County Washington. http://www.city-data.com/county/Pend_Oreille_County-WA.html

Headwaters Economics (2009). <u>A SocioEconomic Profile: Pend Oreille County, Washington</u>. http://headwaterseconomics.org/pubs/protected-lands/LWCF_Economic_Benefits.pdf Knight, R. L., W. C. Gilgert, AND E. Marston. (2002). <u>Ranching west of the 100th meridian: culture, ecology, and economics</u>. Washington, DC, USA: Island Press. 196 p.

Ng, Kawa. 2014a. A Profile of Agriculture; Pend Oreille County, WA. Produced by Economic Profile System- Human Dimensions Toolkit (EPS-HDT). August 19, 2014.

Ng, Kawa. 2014b. A Profile of Socioeconomic Measures; Pend Oreille County, WA. Produced by Economic Profile System- Human Dimensions Toolkit (EPS-HDT). August 19, 2014.

Obermiller, Frederick W. (1992) Costs Incurred by Permittees in Grazing Cattle on Public and Private Rangelands and Pastures in Eastern Oregon: 1982 and 1990. Special Report 903. Corvallis, OR: Oregon State University Extension Service.

Raish C, McSweeney AM. 2003. Economic, social, and cultural aspects of livestock ranching on the Española and Canjilon Ranger Districts of the Santa Fe and Carson National Forests: a pilot study. General Technical Report RMRS-GTR-113. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station. 89 pp.

Shields, D. J., I.M. Martin, W. E. Martin, and M. Haefele (2002). <u>Survey results of the American public's values, objectives, beliefs, and attitudes regarding forests and grasslands</u>, RMRS-GTR-95, RockyMountain Research Station, Fort Collins, CO.

USDA Census of Agriculture (2007). County Profile, Pend Oreille County, WA. http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/Washingto n/cp53051.pdf

USDA Forest Service, Dale Bosworth (2003). <u>Managing the National Forest System: Great</u> Issues and Great Diversions. Speech to the Commonwealth club, San Francisco, CA.

USDI Bureau of Land Management (BLM) and USDA Forest Service (1994). Final Environmental Impact Statement, Rangeland Reform 1994.